

CLAIMS

PROTEIN NMB0928 AND USE THEREOF IN PHARMACEUTICAL FORMULATIONS.

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1. Protein of *N. meningitidis* named NMB0928 characterized by being an antigen able to generate in the recipient organism a protective response against infections caused by bacteria from the *Neisseria* genus and by having the amino acid sequence identified in the sequence list as Seq. ID. No. 4.

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2. Protein named NMB0928, according to Claim 1, characterized by being codified by gene NMB0928 identified in the sequence list as Seq. ID. No. 3.

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3. Gene NMB0928 according to Claim 2, characterized by having the base sequence identified in the sequence list as Seq. ID. No. 3 and codifying for the protein in Claim 1.

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4. Protein or peptide obtained by recombinant technology or chemical synthesis, characterized by having the sequence of protein NMB0928 and being able to generate in the recipient organism a protective response against infections caused by bacteria from the *Neisseria* genus according to Claim 1.

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5. Pharmaceutical formulation characterized by containing the protein or the peptide of Claims 1, 2 and 4 or the protein of Claim 1 produced by the natural way, according to Claims 1, 2 and 4.

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6. Pharmaceutical formulation of Claim 5 characterized by being a vaccine able to generate in the recipient organism a protective response against infections caused by bacteria from the *Neisseria* genus.
7. Pharmaceutical formulation according to Claims 5 and 6 characterized by being a vaccine able to generate in the recipient organism a protective response against infections caused by *Neisseria meningitidis*.

8. Pharmaceutical formulation according to Claims 5 and 6 characterized by being a vaccine able to generate in the recipient organism a protective response against infections caused by *Neisseria gonorrhoeae*
- 5 9. Pharmaceutical formulation according to Claims 5, 6, 7 and 8, characterized by being a prophylactic or therapeutic formulation.
- 10 10. Pharmaceutical formulation according to Claims 5, 6, 7 and 8, characterized by being a combined formulation containing one or several antigens of different antigenic nature, obtained by recombinant way, synthetic way or produce by natural way.
- 15 11. Pharmaceutical formulation according to Claims 5, 6, 7 and 8, characterized as containing polysaccharide antigens.
- 20 12. Pharmaceutical formulation according to Claims 5, 6, 7, 8, and 9, characterized because one of the components of the formulation is a capsular polysaccharide of *N. meningitidis*.
- 25 13. Pharmaceutical formulation according to Claim 9, characterized as containing one polysaccharide-protein conjugate, which polysaccharide moiety corresponds to a bacterial polysaccharide.
14. Pharmaceutical formulation according to Claims 5, 6, 7 and 8, characterized as containing one or several inactivated microorganisms
15. Pharmaceutical formulation according to Claims 5, 6, 7 and 8, characterized as containing peptide antigens.
- 30 16. Pharmaceutical formulation according to Claims 5 and 6, characterized as containing hormones.
17. Pharmaceutical formulation according to Claims 5 and 6, characterized as containing growth factors.

18. Pharmaceutical formulation according to Claims 5 to 17 characterized by being a formulation to be administered by parenteral route.
- 5 19. Pharmaceutical formulation according to Claims 5 to 17 characterized by being a formulation to be administered by mucosal route.
20. Pharmaceutical formulation according to Claims 5 to 17 characterized by being a formulation to be administered by oral route.
- 10 21. Pharmaceutical formulation according to Claims 5 to 20 characterized by being an immunostimulant or immunopotentiator formulation.
22. Pharmaceutical formulation according to Claims 5 to 21 characterized as containing peptides or fragments of the NMB0928 antigen.
- 15 23. Pharmaceutical formulation according to Claims 5 to 21 characterized as containing mimotopes of the NMB0928 antigen.
- 20 24. Genetically modified organism characterized as containing the gene of Claim 3, or part of it, alone or included in another gene sequence.
- 25 25. Pharmaceutical formulation according to Claim 24 characterized as containing the genetically modified organism alive, attenuated or a preparation of it.
26. Pharmaceutical formulation characterized as containing the protein expressed by the organism in Claim 24, and being able to generate in the recipient organism a protective response against infections caused by bacteria from the *Neisseria* genus.
- 30 27. Pharmaceutical formulation characterized as containing the protein or the peptide in Claims 1, 2 and 4, as carrier of antigens of diverse nature.

28. Pharmaceutical component characterized as containing the protein NMB0928 of Claims 1 and 2, or its fragments and being able to allow the detection, alone or in the presence of other components, of the meningococcal disease in humans.
- 5 29. Pharmaceutical component characterized as containing the gene of Claim 3, or its fragments and being able to allow the detection, alone or in the presence of other components, of the meningococcal disease in.
- 10 30. Use of the NMB0928 protein or its fragments, according to Claims 1 and 2, in biosensors or other pharmaceutical or biotechnological applications.
31. Use of the gene NMB0928, according to Claim 3, or its fragments, in biosensors or other pharmaceutical or biotechnological applications.